AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A separator for a fuel cell that is capable of closely contacting either an anode or a cathode of an MEA (membrane electrode assembly) of a fuel cell and interposing a fluid diffusion layer, the separator having a flow field channel for allowing a fluid to flow between the separator and the fluid diffusion layer, characterized in that:

the separator comprises a lamellar structure graphite foil; and

a hydrophobic layer is formed by impregnation on an interior side of the flow field channel, the interior side of the flow field channel having a roughness of decades of micrometers[[.]] ,wherein the lamellar structure graphite foil comprises a stainless steel layer therewithin, and wherein the stainless steel layer has a portion that is directly contacting the hydrophobic layer.

- 2. (Cancelled)
- 3. (Cancelled)
- 4. (Previously Presented) The separator for a fuel cell as claimed in claim 1, wherein the graphite foil is substantially free from thermosetting or thermoplastic resin.
- 5. (Previously Presented) The separator for a fuel cell as claimed in claim 1, wherein a bulk density of the graphite foil lies in the range of 1.5g/cm3 to 2.0g/cm3.
- 6. (Currently Amended) The separator for a fuel cell as claimed in <u>one of claims 1, 4, or 5,</u> wherein thickness of the graphite foil lies in the range of 0.5mm to 3mm.

- 7. (Currently Amended) The separator for a fuel cell as claimed in <u>one of claims 1, 4, or 5,</u> wherein thickness of the hydrophobic layer lies in the range of $30\mu m$ to $100\mu m$.
- 8. (Currently Amended) The separator for a fuel cell as claimed in <u>one of claims 1, 4, or 5, wherein:</u>

at least one manifold is formed in the separator; and

a sealing member is unified to the separator along each circumference of the at least one manifold and an area for contacting the fluid diffusion layer.

- 9. (Previously Presented) The separator for a fuel cell as claimed in claim 8, wherein the sealing member encloses, respectively along a closed curve, each of the at least one manifold and the area for contacting the fluid diffusion layer.
- 10. (Withdrawn) A method for manufacturing a fuel cell having a separator for a fuel cell that is capable of closely contacting either an anode or a cathode of an MEA (membrane electrode assembly) of a fuel cell and interposing a fluid diffusion layer, the separator having a flow field channel for allowing a fluid to flow between the separator and the fluid diffusion layer, the method comprising:

preparing a graphite foil of a predetermined size;

forming a mask pattern on the graphite foil corresponding to the flow field channel; forming the flow field channel on the graphite foil by etching the graphite foil formed with the mask pattern thereon;

forming a hydrophobic layer on an interior side of the flow field channel by impregnation; and

removing the mask pattern from the graphite foil.

11. (Withdrawn) The method for manufacturing a fuel cell as claimed in claim 10, wherein the forming of a mask pattern on the graphite foil comprises:

coating the graphite foil with a dry film resist;

exposing the coated graphite foil; and

developing the dry film resist on the graphite foil by moving a spray nozzle of a spray-type developing apparatus thereover.

- 12. (Withdrawn) The method for manufacturing a fuel cell as claimed in claim 10, wherein the forming of a mask pattern on the graphite foil comprises attaching a mask on the graphite foil, the mask being provided with a pattern corresponding to the flow field channel and being made of rubber or stainless steel.
- 13. (Withdrawn) The method for manufacturing a fuel cell as claimed in claim 10, wherein the forming of the flow field channel on the graphite foil comprises at least one of sandblasting and ultrasonic etching.
- 14. (Withdrawn) The method for manufacturing a fuel cell as claimed in claim 10, wherein the forming a hydrophobic layer on the interior side of the flow field channel by impregnation comprises:

forming a hydrophobic layer on the graphite foil attached with the mask pattern and formed with the flow field channel; and

drying the graphite foil formed with the hydrophobic layer, in a temperature range of 50°C-90°C.

- 15. (Withdrawn) The method for manufacturing a fuel cell as claimed in claim 14, wherein, in the forming of a hydrophobic layer on the graphite foil, a hydrophobic solution is spray coated on a surface of the graphite foil, or the graphite foil is dipped in the hydrophobic solution.
- 16. (Withdrawn) The method for manufacturing a fuel cell as claimed in claim 10, wherein:

the flow field channel is formed on each of front and rear sides of the separator; the mask pattern comprises a front mask pattern and a rear mask pattern;

at least one pair of aligning holes are formed at each of the front and rear mask patterns;

at least one aligning hole is formed through the graphite foil corresponding to the aligning holes of the mask patterns; and

the aligning holes of the mask patterns and the aligning holes of the graphite foil are aligned by using at least one pair of aligning bars corresponding thereto.

- 17. (Withdrawn) The method for manufacturing a fuel cell as claimed in claim 16, wherein the at least one pair of aligning holes and the at least one pair of aligning bars respectively comprise a plurality of pairs thereof, corresponding to different sizes.
- 18. (Withdrawn) A fuel cell stack comprising at least one unit cell, wherein the at least one unit cell comprises:
- an MEA (membrane electrode assembly) comprising a polymer electrolyte membrane, and an anode and a cathode formed on both sides thereof;
- a pair of fluid diffusion layers contiguously disposed to the anode and the cathode at both sides of the MEA; and

a pair of separators for closely contacting the pair of fluid diffusion layers, forming flow field channels on sides thereof facing the fluid diffusion layers so as to form a reaction region, and forming manifold regions peripheral to the reaction region,

wherein at least one of the pair of separators comprises a lamellar structure graphite foil, and

- a hydrophobic layer is formed by impregnation on an interior side of the flow field channels of the at least one of the pair of separators.
- 19. (Withdrawn) The fuel cell stack as claimed in claim 18, wherein the lamellar structure graphite foil comprises a stainless steel layer therewithin.
- 20. (Withdrawn) The fuel cell stack as claimed in claim 19, wherein the stainless steel layer is exteriorly exposed, interposing the hydrophobic layer.
- 21. (Withdrawn) The fuel cell stack as claimed in claim 18, wherein the graphite foil is substantially free from thermosetting or thermoplastic resin.
- 22. (Withdrawn) The fuel cell stack as claimed in claim 18, wherein a bulk density of the graphite foil lies in the range of 1.5g/cm3 to 2.0g/cm3.

- 23. (Withdrawn) The fuel cell stack as claimed in claim 18, wherein thickness of the graphite foil lies in the range of 0.5mm to 3mm.
- 24. (Withdrawn) The fuel cell stack as claimed in claim 18, wherein thickness of the hydrophobic layer lies in the range of $30\mu m$ to $100\mu m$.
- 25. (Withdrawn) The fuel cell stack as claimed in claim 18, wherein a sealing member is unified to the separator along each circumference of the manifold and the reaction region.